OzGAP Scoring Module

OzGap in a Nutshell

OzGap Distance Points - Same as GAP2000
OzGap Speed Points - Same as GAP2000
OzGap Arrival Points - Same as GAP2000

OzGap Departure Points

GAP2000 = Between 0 and 1/4 of pilot's speed points
OzGap = Between 0 and 1/4 of fastest pilot's speed points

GAP2000 = Maximum if pilot is earliest starter to make goal. Zero if half of nominal time behind earliest start time to make goal. Curved distribution between zero and maximum.
OzGap = Maximum if you stay in front of the lead line from start to finish. The lead line travels at the speed of the fastest pilot, and arrives at goal at the same time as the first pilot in. Zero if quarter of fastest time behind the lead line. Linear distribution between zero and maximum. Times are averaged from start to finish.

GAP2000 = if a pilot's own speed points are zero, then departure points are zero.
OzGap = departure points are no longer a function of the pilot's own speed points. However, if the pilot's own speed points are zero, then the maximum possible departure points for that pilot is reduced slightly.

So what do I do?

Pilots need to start before the “guns” to get at least part of their flight in front of the lead line. This will give them usable Departure Points. The slower you are the earlier you need to launch to get the same Departure Points.
You can now boost your competition placing by going early, where it previously was something of a lottery whether or not you would get any Departure Points.

Some details for those who like to read…..

In 1998, GAP introduced the concept of Departure Points. The idea was to encourage pilots to lead out and start early. The system was set up so that the winner of the day could only get 1000 points if he was first to depart (and make goal) and fastest to goal (of course this also means that he is first in to goal).

While this is a very good philosophy, it has not worked that well in practice.

To get 1000 points on a day the pilot should be leading for a large part of the flight. By being the first into goal, the pilot obviously led during the last part of the final glide, therefore that pilot took the greatest “risk” at that very crucial part of the flight (crucial because Departure, Arrival, Distance and Speed points are all affected by being the first in vs landing one meter short!). Also, by being the first to leave (and make goal), he obviously overtook or overflew any other pilots who started before him.

GAP was designed with the idea that the competition nominal time would be about 2.5 hours, therefore everyone who launched 1.25 hours after the first pilot to leave (that makes goal) will be within the “early bird bonus” system.

The idea was to use the earliest start time of all those who made goal as a bench mark, and award Departure Points on how long after the bench mark start time each pilot started. Each pilot was awarded a fraction between 0 and 1/4 of their speed Points as Departure Points. If

the pilot was more than half the nominal time after the bench mark, then they got zero Departure Points.

There are two problems with this.

Firstly; the earliest pilots to leave are commonly slow pilots wishing to simply make goal. They get the lions share of the Departure Points, but as the points are a proportion of your own speed Points, the pilot will get a large percentage of a small number of points.
The fast pilots leaving later will get a small percentage of a large number of points.
Both groups of pilots end up getting only a small number of Departure Points.
On top of this, speed Points cut off [at
winners time + Sqr root of winners time], so if the winner takes one hour to complete the task, pilots with a time of 2 hours or more get no Speed Points (and no Departure Points). If the winner takes 2 hours, the cut off point is 3.14 hours.
The reason for this Speed Point cut off, is so that the Speed Points can be distributed in an equitable manner (I won't explain why here)

Secondly; although tasks are set with a winners flight time of say 3 hours, if the weather improves during the day, then it is quite feasible that the winner may take only half that time. If the Nominal Time is set at 2.5 hours, then this obviously good day would be devalued. Hence competitions are typically set with a nominal time of 1.5 hours, which leaves only 45 min for the Departure Points to work. On a day where the thermals are active for a long time, the window of opportunity for making goal is also a long time.
If the Nominal Time is 1.5 hours, but the "window of opportunity" is greater than 45 minutes, then the Departure Points system starts to fail.

Another compounding factor in all this is the fact that in our competition manual, sections 9.6 and 10.6 states that in certain circumstances a pilot may be given the window opening time for his start time. Also 3.14.10 states that a pilot has, in some circumstances, the opportunity to use flight times that may not represent actual sector/line crossing times
Both of these situations may cause. The Departure Points system to fail.

To solve this problem we have introduced a new bench mark, called the **lead line**. The lead line is similar to the world record lines shown in swimming competitions. The lead line travels from the start line to the finish line at the average speed of the fastest pilot, timed to arrive at goal when the first pilot in to goal arrives. If you can stay in front of the lead line the whole way, you are (almost) guaranteed to get the full quota of Departure Points (one quarter of available speed points). The one exception is if you are so slow, your Speed Points are zero. In this case you can still get substantial Departure Points because Departure Points are no longer a fraction of your speed Points.

If you are behind the lead line then the points available trail off. They reduce to zero for the pilot who is on average, behind the lead line by one quarter of the fastest time of the day. So if the fastest pilot does the course in 2 hours, and you are 0.4 hours behind the lead line at the start, and 0.6 hours behind the lead line at the finish, then you will get zero Departure Points.

The formula has a safeguard, so that for any two pilots finishing together, the one who started later will get the better total score. This means that if a pilot has two start times, then the later start time will always produce the better score. If this safeguard were not in place and a pilot's second start time gave a speed worth zero speed points, then that pilot would want to use their first start time to get more Departure Points (with the same zero speed points).

Now, for the winner to get 1000 points, he has to be the fastest to goal, and the first to goal. He no longer needs to be the first to start and still make goal. If he satisfies the first two criteria, then he will get the maximum Departure Points. Other pilots, who started earlier, and finished at the same time, would get slower speed Points, but could also get maximum Departure Points. In the old system, a slow pilot leaving early could destroy Departure Points for

everyone. In the new system, you get Departure Points according to how long you are in front of the gun pilots.

We feel that this represents a more practical approach to the concept. The points are not decided by a nominal figure that the organizer chooses at the start of the competition, but by the weather and the pilots on the day.
Instead of basing the benchmark on the earliest pilot (who makes goal), who typically, will not be a key player in the event, it is based on the fastest pilot, so the other fast pilots now need to take departure time more into account.

Note:

Since the Departure Points are no longer a fraction of Speed Points, then a pilot that gets zero speed points could use 3.14.10 to his advantage by claiming tracklog points within the start, but prior to the start crossing (or an earlier start crossing) to increase his departure points and hence increase his score for the day.
The formula has a safeguard, so that for any two pilots finishing together, the one who started later will get the better total score. This is why some pilots with zero speed Points can't get the maximum Departure Points. Their Departure Points are calculated on their actual finish time and a pseudo start time that is the latest time they could start and still get zero speed Points.

By basing the system on the performance of the fastest/first in, pilots are not looking at the early pilots, wondering whether or not those pilots will make goal, wondering whether or not they will adversely affect the Departure Points system, or whether anyone will be forced to rely on a “window open” start time.
Pilots will now be looking at the “guns” and they will then be able to plan to aim for Departure Points.

The original aim of the concept was to get pilots to go earlier.

As it is, if no one plans their flight with Departure points in mind, then they will stick to their old tactics of waiting for the guns to go because that is obviously the best time to go!
Now they should be able to get usable points by going earlier if they think they will be slower.
Speed is still the overriding factor, but if the guns can plan their flight so that they are the fastest and first in, then they get the full 1000 points.

To help see what differences have been made, some examples from past competitions are shown at the end of this document.

Some “real world” situations.

We commonly have situations where it is possible to fly a 3 hour task with an available launch window of more than 3 hours. That is, a pilot launches at 12:00 o'clock and makes goal, while another pilot launches at, say, 4:00 and also makes goal.
This situation gets more prevalent when the tasks end up shorter (in time), even thought the task would have been set with a 3 hour time frame in mind.

Things are further complicated by the fact that conditions generally get better until they shut off, so it is a gamble, how late does the fast pilot dare to launch....
There have been cases where the day winner won the day because they had trouble on launch (or could not get to launch) and so had no option but to go late.

However, a fast pilot with a late launch time would now get zero departure points, and as long as departure points are (generally) of a "usable" quantity, fast pilots must now be very sure of themselves if they chose to go late.

Now, the top pilots will always try to fly in a manner that gives them the most points.

OzGAP is still structured in a way that keeps speed points as the main goal, but it now gives worthwhile departure points to the pilots who were not quite up on speed. By using these points, the not so fast pilots can now increase their points in a manner that they can plan on, as opposed to tacking a chance on what a pilot who leaves very early may or may not do (the very early pilot may or may not make goal).

Now the fast pilots must factor the not so fast pilots into their flight strategy.

While the GAP concept of first out and fastest is the best "departure" concept, OzGAP is more practical, especially in situations where the window of opportunity for making goal is large.

All the pilot needs to know is that he needs to launch before the guns (the slower he is, the longer before the guns he needs to launch)

The current GAP arrival bonus makes no differentiation between arriving one second before someone or one hour. This is a bit of a problem in itself.
If you are slow, and arrive at goal soon after the first pilots you will get good departure points. Look at Tim and Steffen in the first graphical example below. Both were slow (especially Steffen), but both got maximum departure points. Being first into goal means an early start/fast flight, which is what we are trying to aim for.

Good soaring conditions will result in pilots being spread vertically (typical gain of altitude per thermal climb in the order of 2 to 4000m), pilots also spread horizontally because there are often no distinct thermal courses in the task (flying flatlands and small hills rather than following mountain ranges).
In this scenario it is typical that a large portion of the competition field will not be able to see any pilots ahead of them for a large portion of the flight. The traditional idea of rewarding pilots that are early to launch does not necessarily mean that you are rewarding pilots who lead. It is quite feasible that a pilot that leaves late, but reaches goal early does not have anyone "marking" thermals in front of them for the entire flight. This pilot has effectively lead for the entire flight.

Now look at other sports. Athletes look at the "guns" to gauge their performance or progress.

By using the "first out" as a bench mark you are using some (possibly) slow/poor skilled pilot (who, possibly, by good luck rather that good flying) makes goal. It would be very difficult to identify this person prior to launch, as it could be anyone from a large number of pilots.
By using "first in" as a benchmark you are now looking towards the better pilots in the competition field as the means of gauging performance.
By using "first out and fastest", you are almost guaranteeing that no one will fit this description.
By using "first in and fastest", you are looking at a small and predictable part of your competition field, which other pilots can then factor into their flight strategy.

When using "first out", a pilot will say.....
"I need to launch as soon as it is soarable and just grovel along the course in order to get departure points... Of course I have just killed any chance of getting a respectable time on the task, but at least I get departure points (I hope)"
When using “first in”, a pilot will say…..
"If I launch before The gun pilots, I will get departure points" (the slower I am, the longer before them I need to launch)"

Our choice of "first in and fastest" for the benchmark is so that we can promote racing as a valid form of competition, and to prompt the not so fast pilots to get going, we base the departure points on how long a pilot can keep in front of the "lead line"

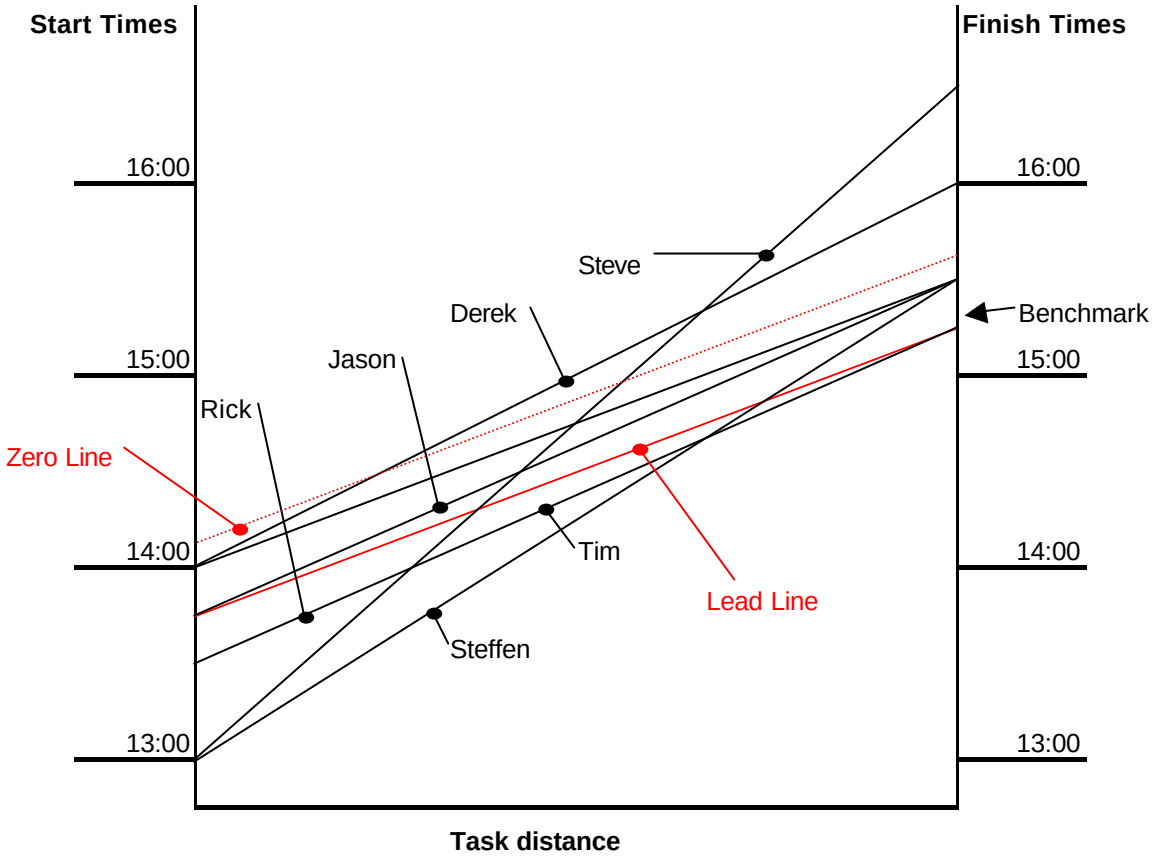
What happens in competition is that pilots wait for the guns to go before they go. Now they can bank on getting usable points by leaving before the guns. This in turn will get the guns to rethink their launch times because someone that is not quite as fast as they are can now get ahead of them in points if they launch before them. This in turn pushes the not-so-fast pilots earlier still.
This cycle will then find a new equilibrium, with the competition field in general getting going earlier, which is also good for competitions held in stable conditions where it is a challenge to get pilots off the hill in time to make goal.

Remember also that if "Fast Pilot A" launches earlier than "Fast Pilot B", but "Fast Pilot B" catches up, "Fast Pilot A" will not lose as many points as he would have previously.
If "Fast Pilot A" manages to keep in front, then he is effectively ahead.

Part of a test task (altered version of a real task)
To be read in conjunction with the graph on the following page

Name	Start	Finish	Time	km/h	P Dep.	P km/h	P Arr.	Total
DUNCAN Rick	14:00:00	15:30:00	1:30:00	52.93	22	264.4	42	945
CUMMINGS D. Tim	13:30:00	15:15:00	1:45:00	45.37	66.1	172.8	47.2	902
REID Jason	13:45:00	15:30:00	1:45:00	45.37	44.1	172.8	42	875
TURNER Jason	13:45:00	15:30:00	1:45:00	45.37	44.1	172.8	42	875
DURAND Jon (Junior)	13:55:00	15:36:40	1:41:40	46.86	19.6	186.9	26	849
BULL Neva	14:00:00	15:45:00	1:45:00	45.37	0	172.8	20.5	809
PENNICUIK Lloyd	14:00:00	15:45:00	1:45:00	45.37	0	172.8	20.5	809
PRITCHARD Phil	13:55:00	15:44:38	1:49:38	43.45	7.9	154.7	23.1	802
MORENO FERNANDEZ A	14:15:00	16:00:00	1:45:00	45.37	0	172.8	12.4	801
PATON Len	13:45:00	15:45:00	2:00:00	39.7	22	118.9	20.5	778
DURAND Jon snr	13:45:00	15:45:00	2:00:00	39.7	22	118.9	20.5	778
HIKOBE Junko	13:45:00	15:45:00	2:00:00	39.7	22	118.9	20.5	778
HERTLING Steffen	13:00:00	15:30:00	2:30:00	31.76	66.1	33.4	42	758
STEVENS Dave	14:00:00	16:00:00	2:00:00	39.7	0	118.9	12.4	747
WAGNER Derek	14:00:00	16:00:00	2:00:00	39.7	0	118.9	12.4	747
NOMA Yasuhiro	14:45:00	16:45:00	2:00:00	39.7	0	118.9	9.7	745
SUNAMA Takashi	13:15:00	16:00:00	2:45:00	28.87	41.8	0	12.4	670
PARER Adam	14:00:00	17:00:00	3:00:00	26.47	0	0	9.6	626
MCMAHON Steve	13:00:00	16:30:00	3:30:00	22.69	0	0	10	626

Tim and Steffen	Max Departure points
Jason	2/3 Departure Points (note devaluation of Takishi on prev page)
Rick	1/3 Departure points
Derek and Steve	Zero Departure Points



Lead Line is the same average speed of the fastest time, finishing a the earliest goal time
Zero line is the same average speed of the fastest time, finishing at 1/4 of fastest time, after the earliest start time

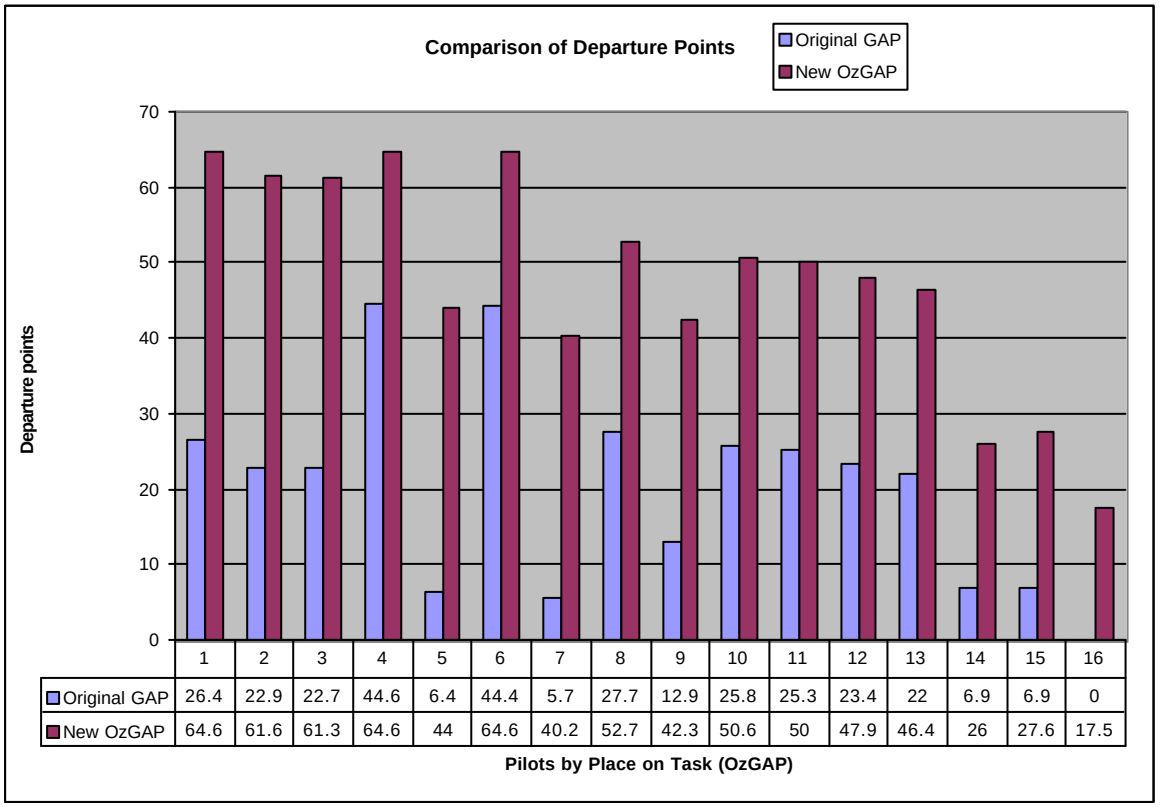
Real examples from selected competition tasks follow, showing the change in points from GAP, when rescored with OzGAP

Day 4 Fbs 2001 GAP

Name	Start	Finish	Time	km/h	P Dep.	P km/h	P Arr.	Total
BERTOK Attila	14:15:00	18:46:15	4:31:15	50.17	26.4	258.4	46.1	962
WEISSENBERGER Tom	14:15:00	18:52:38	4:37:38	49.01	22.9	223.3	40.2	917
HAZLETT Brett	14:15:00	18:53:06	4:38:06	48.93	22.7	221.6	34.9	910
LOTEN Conrad	14:00:00	18:53:18	4:53:18	46.4	44.6	178.2	30.2	884
HOLTKAMP Rohan	14:00:00	18:53:29	4:53:29	46.37	44.4	177.8	26.2	879
HEINRICHS Gerolf	14:30:00	19:14:26	4:44:26	47.84	6.4	201.5	22.7	861
BONDARCHUK Oleg	14:30:00	19:22:31	4:52:31	46.52	5.7	180.1	19.8	836
THE FLYING FISH Tish	14:00:00	19:26:19	5:26:19	41.7	27.7	110.8	17.3	787
SCHMITZ Betinho	14:15:00	19:33:03	5:18:03	42.79	12.9	126	12.3	782
ITAGAKI Naoki	14:00:00	19:30:35	5:30:35	41.16	25.8	103.3	15.2	775
WARD Geoff	14:00:00	19:31:51	5:31:51	41.01	25.3	101.1	13.6	771
UJHELYI Balazs	14:00:00	19:36:15	5:36:15	40.47	23.4	93.6	11.2	759
HAGEWOOD Robert	14:00:00	19:39:34	5:39:34	40.07	22	88	10.5	751
BARBER Mike	14:15:00	20:07:22	5:52:22	38.62	6.9	67.3	10	715
ZUPANC Michael	14:00:00	20:19:02	6:19:02	35.9	6.9	27.5	9.6	675
BARTHELMES Oliver	14:00:00	20:39:29	6:39:29	34.06	0	0	9.4	640

Day 4 Forbes 2001 OzGAP

Name	Start	Finish	Time	km/h	P Dep	P	P Arr	Total	
BERTOK Attila	14:15:00	18:46:15	4:31:15	50.17	64.6	258.4	46.1	1000	First in + Fastest = 1000 points
WEISSENBERGER Tom	14:15:00	18:52:38	4:37:38	49.01	61.6	223.3	40.2	956	
HAZLETT Brett	14:15:00	18:53:06	4:38:06	48.93	61.3	221.6	34.9	949	
LOTEN Conrad	14:00:00	18:53:18	4:53:18	46.4	64.6	178.2	30.2	904	
HEINRICHS Gerolf	14:30:00	19:14:26	4:44:26	47.84	44	201.5	22.7	899	
HOLTKAMP Rohan	14:00:00	18:53:29	4:53:29	46.37	64.6	177.8	26.2	899	
BONDARCHUK Oleg	14:30:00	19:22:31	4:52:31	46.52	40.2	180.1	19.8	871	
THE FLYING FISH Tish	14:00:00	19:26:19	5:26:19	41.7	52.7	110.8	17.3	812	
SCHMITZ Betinho	14:15:00	19:33:03	5:18:03	42.79	42.3	126	12.3	811	
ITAGAKI Naoki	14:00:00	19:30:35	5:30:35	41.16	50.6	103.3	15.2	800	
WARD Geoff	14:00:00	19:31:51	5:31:51	41.01	50	101.1	13.6	796	
UJHELYI Balazs	14:00:00	19:36:15	5:36:15	40.47	47.9	93.6	11.2	784	
HAGEWOOD Robert	14:00:00	19:39:34	5:39:34	40.07	46.4	88	10.5	776	
BARBER Mike	14:15:00	20:07:22	5:52:22	38.62	26	67.3	10	734	
ZUPANC Michael	14:00:00	20:19:02	6:19:02	35.9	27.6	27.5	9.6	695	
BARTHELMES Oliver	14:00:00	20:39:29	6:39:29	34.06	17.5	0	9.4	658	To slow for Speed Points, but still makes a few Dep. Points

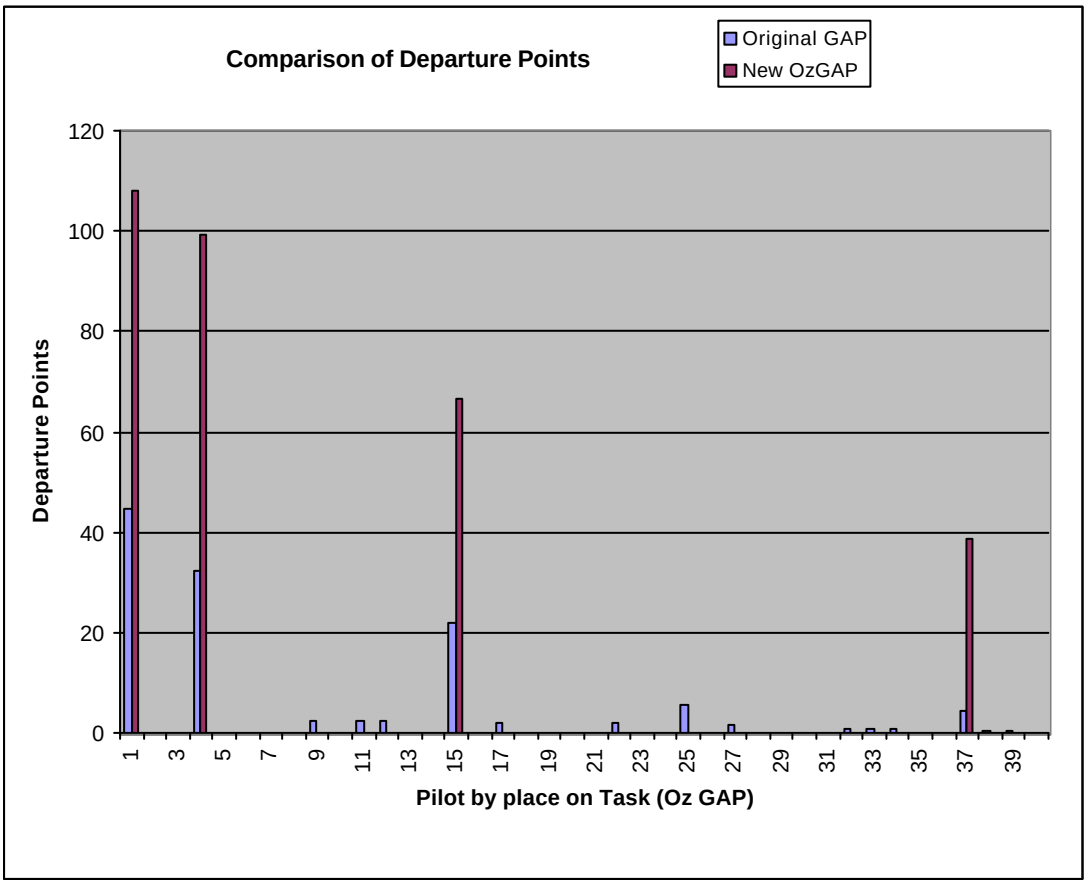


Day 5 Hay 2001 GAP

Name	Start	Finish	Time	km/h	P Dep	P km/h	P Arr.	Total
BONDARCHUK Oleg	16:00:00	17:29:22	1:29:22	78.96	0	432.5	66.6	878
STRAUB Davis	16:00:00	17:29:36	1:29:36	78.75	0	423.1	63.4	865
DURAND JNR Jon	15:20:00	16:59:22	1:39:22	71.01	44.8	317.8	77.2	819
HEINRICHS Gerolf	16:00:00	17:38:05	1:38:05	71.94	0	327.8	60.3	767
BERTOK Attila	16:30:00	18:04:54	1:34:54	74.35	0	355.2	29.9	764
BARBER Mike	16:00:00	17:38:20	1:38:20	71.76	0	325.8	54.5	759
PATON Len	15:20:00	17:13:00	1:53:00	62.44	32.3	229	73.5	714
BARTHELMES Oliver	16:10:00	17:53:50	1:43:50	67.96	0	285.8	32.9	698
MOYES Stephen	15:50:00	17:38:18	1:48:18	65.15	2.2	257	57.3	695
WEISSENBERGER Tom	16:40:00	18:23:02	1:43:02	68.48	0	291.2	18.8	689
OLSSON Andreas	15:50:00	17:38:27	1:48:27	65.06	2.2	256	51.8	689
HOLTKAMP Rohan	15:50:00	17:39:07	1:49:07	64.66	2.2	251.9	49.2	682
SCHMITZ Betinho	16:20:00	18:06:11	1:46:11	66.45	0	270.3	28.5	678
UJHELYI Balazs	16:00:00	17:47:56	1:47:56	65.37	0	259.2	40.1	678
GERARD Jean-Francois	16:20:00	18:07:20	1:47:20	65.74	0	263	27.2	669
HEANEY Grant	15:50:00	17:41:22	1:51:22	63.36	2.1	238.5	46.7	666
RIGG Gordon	16:20:00	18:10:28	1:50:28	63.87	0	243.8	23	646
BADER Lukas	16:00:00	17:53:33	1:53:33	62.14	0	225.8	34.5	639
MCLELLAN Tish	16:10:00	18:03:16	1:53:16	62.3	0	227.5	31.3	638
WILLIAMS Michael	16:30:00	18:21:29	1:51:29	63.29	0	237.8	20.6	637
LOTEN Conrad	15:50:00	17:46:04	1:56:04	60.79	1.8	211.7	42.2	635
OSBORN Tim	15:20:00	17:26:37	2:06:37	55.73	22.1	156.9	70	628
GUILLEN Bruno	16:30:00	18:24:50	1:54:50	61.45	0	218.6	17.5	615
WALBEC Richard	16:30:00	18:25:10	1:55:10	61.27	0	216.7	17.1	613
HEANEY Tove	15:40:00	17:42:26	2:02:26	57.63	5.6	177.9	44.4	607
HAZLETT Brett	16:10:00	18:09:51	1:59:51	58.87	0	191.4	25	595
FREEMAN Dr James	15:50:00	17:52:23	2:02:23	57.65	1.5	178.2	36.3	595
SALVENMOSER Seppi	16:30:00	18:34:46	2:04:46	56.55	0	166.1	15.7	561
MOCELLIN Francoise	16:20:00	18:26:53	2:06:53	55.61	0	155.6	16.5	551
STURM Herbert	16:20:00	18:32:45	2:12:45	53.15	0	127.4	15.8	522
MORENO Alberto	16:10:00	18:24:05	2:14:05	52.62	0	121.2	17.8	518
JONES Chris	15:50:00	18:08:37	2:18:37	50.9	0.9	100.5	26.1	506
MEDEW Andrew	15:50:00	18:10:04	2:20:04	50.38	0.8	94	23.9	498
REES Ian	15:50:00	18:10:43	2:20:43	50.14	0.8	91.1	22.1	493
KIEFINGER Hans	16:00:00	18:22:33	2:22:33	49.5	0	83	19.3	481
SANGSTER Trevor	16:00:00	18:23:13	2:23:13	49.27	0	80.1	18.3	477
CAUSER Tim	15:50:00	18:21:39	2:31:39	46.53	0.4	44.2	19.9	443
DUNCAN Ian	15:10:00	17:48:03	2:38:03	44.64	4.5	18.1	38.2	440
BAYLEY Stephen	15:50:00	18:27:03	2:37:03	44.93	0.2	22.1	16.3	418
KENNEDY Ben	15:50:00	18:28:24	2:38:24	44.55	0.1	16.7	16	412
HOLT Greg	16:00:00	18:40:26	2:40:26	43.98	0	8.5	15.5	403
WHALLEY Stephen	15:30:00	18:16:10	2:46:10	42.46	0	0	21.3	400
GLENN Hugh	15:20:00	18:26:48	3:06:48	37.77	0	0	16.8	396
SUNAMA Takashi	15:10:00	18:28:23	3:18:23	35.57	0	0	16.1	395
WARD Geoff	15:50:00	18:37:13	2:47:13	42.2	0	0	15.6	394

Day 5 Hay 2001 OzGAP

Name	Start	Finish	Time	km/h	P Dep.	P km/h	P Arr.	Total
DURAND JNR Jon	15:20:00	16:59:22	1:39:22	71.01	108.1	317.8	77.2	882
BONDARCHUK Oleg	16:00:00	17:29:22	1:29:22	78.96	0	432.5	66.6	878
STRAUB Davis	16:00:00	17:29:36	1:29:36	78.75	0	423.1	63.4	865
PATON Len	15:20:00	17:13:00	1:53:00	62.44	99.3	229	73.5	781
HEINRICHS Gerolf	16:00:00	17:38:05	1:38:05	71.94	0	327.8	60.3	767
BERTOK Attila	16:30:00	18:04:54	1:34:54	74.35	0	355.2	29.9	764
BARBER Mike	16:00:00	17:38:20	1:38:20	71.76	0	325.8	54.5	759
BARTHELMES Oliver	16:10:00	17:53:50	1:43:50	67.96	0	285.8	32.9	698
MOYES Stephen	15:50:00	17:38:18	1:48:18	65.15	0	257	57.3	693
WEISSENBERGER Tom	16:40:00	18:23:02	1:43:02	68.48	0	291.2	18.8	689
OLSSON Andreas	15:50:00	17:38:27	1:48:27	65.06	0	256	51.8	687
HOLTKAMP Rohan	15:50:00	17:39:07	1:49:07	64.66	0	251.9	49.2	680
SCHMITZ Betinho	16:20:00	18:06:11	1:46:11	66.45	0	270.3	28.5	678
UJHELYI Balazs	16:00:00	17:47:56	1:47:56	65.37	0	259.2	40.1	678
OSBORN Tim	15:20:00	17:26:37	2:06:37	55.73	66.4	156.9	70	672
GERARD Jean-Francois	16:20:00	18:07:20	1:47:20	65.74	0	263	27.2	669
HEANEY Grant	15:50:00	17:41:22	1:51:22	63.36	0	238.5	46.7	664
RIGG Gordon	16:20:00	18:10:28	1:50:28	63.87	0	243.8	23	646
BADER Lukas	16:00:00	17:53:33	1:53:33	62.14	0	225.8	34.5	639
MCLELLAN Tish	16:10:00	18:03:16	1:53:16	62.3	0	227.5	31.3	638
WILLIAMS Michael	16:30:00	18:21:29	1:51:29	63.29	0	237.8	20.6	637
LOTEN Conrad	15:50:00	17:46:04	1:56:04	60.79	0	211.7	42.2	633
GUILLEN Bruno	16:30:00	18:24:50	1:54:50	61.45	0	218.6	17.5	615
WALBEC Richard	16:30:00	18:25:10	1:55:10	61.27	0	216.7	17.1	613
HEANEY Tove	15:40:00	17:42:26	2:02:26	57.63	0	177.9	44.4	601
HAZLETT Brett	16:10:00	18:09:51	1:59:51	58.87	0	191.4	25	595
FREEMAN Dr James	15:50:00	17:52:23	2:02:23	57.65	0	178.2	36.3	593
SALVENMOSER Seppi	16:30:00	18:34:46	2:04:46	56.55	0	166.1	15.7	561
MOCELLIN Francoise	16:20:00	18:26:53	2:06:53	55.61	0	155.6	16.5	551
STURM Herbert	16:20:00	18:32:45	2:12:45	53.15	0	127.4	15.8	522
MORENO Alberto	16:10:00	18:24:05	2:14:05	52.62	0	121.2	17.8	518
JONES Chris	15:50:00	18:08:37	2:18:37	50.9	0	100.5	26.1	505
MEDEW Andrew	15:50:00	18:10:04	2:20:04	50.38	0	94	23.9	497
REES Ian	15:50:00	18:10:43	2:20:43	50.14	0	91.1	22.1	492
KIEFINGER Hans	16:00:00	18:22:33	2:22:33	49.5	0	83	19.3	481
SANGSTER Trevor	16:00:00	18:23:13	2:23:13	49.27	0	80.1	18.3	477
DUNCAN Ian	15:10:00	17:48:03	2:38:03	44.64	38.7	18.1	38.2	474
CAUSER Tim	15:50:00	18:21:39	2:31:39	46.53	0	44.2	19.9	443
BAYLEY Stephen	15:50:00	18:27:03	2:37:03	44.93	0	22.1	16.3	417
KENNEDY Ben	15:50:00	18:28:24	2:38:24	44.55	0	16.7	16	412
HOLT Greg	16:00:00	18:40:26	2:40:26	43.98	0	8.5	15.5	403
WHALLEY Stephen	15:30:00	18:16:10	2:46:10	42.46	0	0	21.3	400
GLENN Hugh	15:20:00	18:26:48	3:06:48	37.77	0	0	16.8	396
SUNAMA Takashi	15:10:00	18:28:23	3:18:23	35.57	0	0	16.1	395
WARD Geoff	15:50:00	18:37:13	2:47:13	42.2	0	0	15.6	394



First in + Early start + Quick time = increase in placing

Left late and lost placings

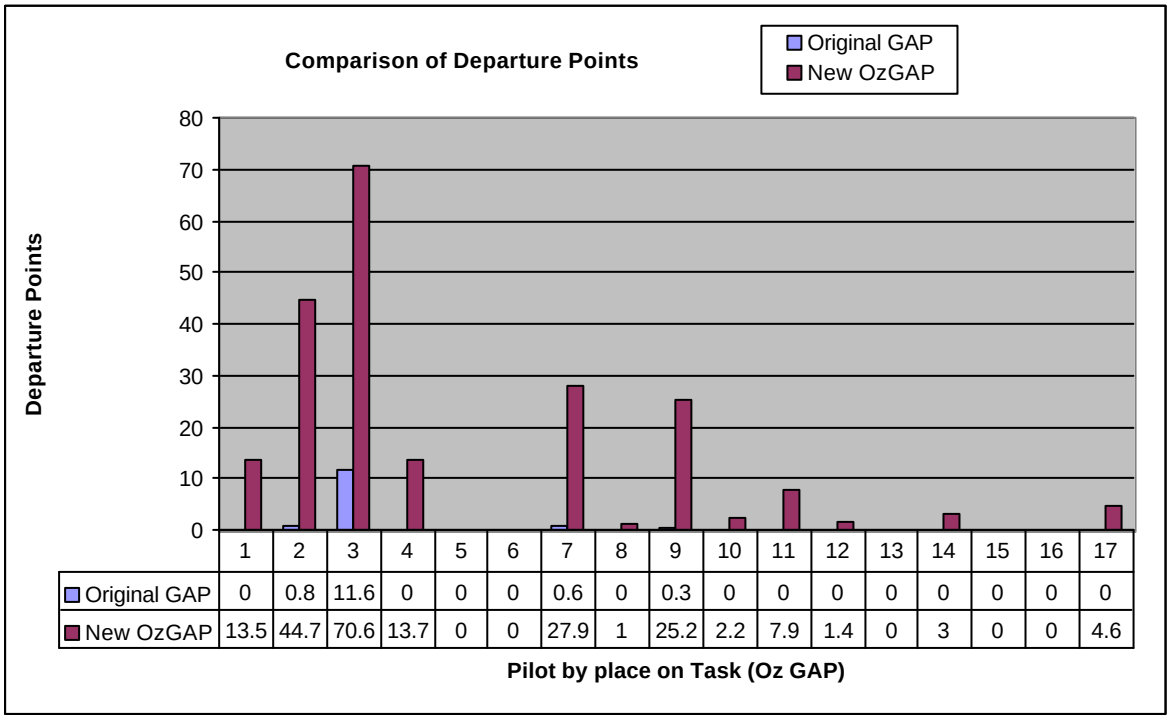
Early start + reasonable time = increase in placing

Day 4 NSW State Titles 2001 GAP

Name	Start	Finish	Time	km/h	P Dep.	P km/h	P Arr.	Total
DUNCAN Rick	13:57:00	15:34:47	1:37:47	48.72	0	282.5	39.9	913
DURAND Jon (Junior)	13:55:00	15:36:40	1:41:40	46.86	0	243.8	35.4	870
HERTLING Steffen	13:43:00	15:27:10	1:44:10	45.73	0.8	228.6	44.9	865
MORENO FERNANDEZ A	14:13:00	15:55:18	1:42:18	46.57	0	239.7	11.1	841
CUMMINGS D. Tim	13:22:00	15:15:01	1:53:01	42.15	11.6	186.2	50.4	839
BULL Neva	14:04:00	15:49:42	1:45:42	45.07	0	220.3	13.3	824
PATON Len	13:56:00	15:44:25	1:48:25	43.94	0	206.8	24.7	822
PRITCHARD Phil	13:55:00	15:44:38	1:49:38	43.45	0	201.1	21.9	813
PENNICUIK Lloyd	13:54:00	15:46:12	1:52:12	42.46	0	189.7	17.5	798
PARER Adam	13:58:00	15:49:41	1:51:41	42.66	0	192	14.4	797
REID Jason	13:43:00	15:38:50	1:55:50	41.13	0.6	174.7	31.4	797
TURNER Jason	13:44:00	15:39:40	1:55:40	41.19	0.3	175.4	27.8	794
DURAND Jon snr	13:51:00	15:44:39	1:53:39	41.92	0	183.6	19.6	793
STEVENS Dave	13:58:00	15:52:00	1:54:00	41.79	0	182.2	11.6	784
NOMA Yasuhiro	13:52:00	15:47:02	1:55:02	41.41	0	177.9	15.8	784
WAGNER Derek	14:05:00	16:02:55	1:57:55	40.4	0	166.6	10.4	767
HIKOBE Junko	13:47:00	15:50:58	2:03:58	38.43	0	144.4	12.3	747
SUNAMA Takashi	13:53:00	16:02:13	2:09:13	36.87	0	126.5	10.7	727
MCMAHON Steve	13:00:00	16:24:52	3:24:52	23.25	0	0	10.2	601

Day 4 NSW State Titles 2001 OzGAP

Name	Start	Finish	Time	km/h	P Dep.	P km/h	P Arr.	Total	
DUNCAN Rick	13:57:00	15:34:47	1:37:47	48.72	13.5	282.5	39.9	926	
HERTLING Steffen	13:43:00	15:27:10	1:44:10	45.73	44.7	228.6	44.9	909	
CUMMINGS D. Tim	13:22:00	15:15:01	1:53:01	42.15	70.6	186.2	50.4	898	First out + First in. Max Departure
DURAND Jon (Junior)	13:55:00	15:36:40	1:41:40	46.86	13.7	243.8	35.4	883	points , moves up in placings
MORENO FERNANDEZ A	14:13:00	15:55:18	1:42:18	46.57	0	239.7	11.1	841	
BULL Neva	14:04:00	15:49:42	1:45:42	45.07	0	220.3	13.3	824	
REID Jason	13:43:00	15:38:50	1:55:50	41.13	27.9	174.7	31.4	824	Late starters + Late finishers. Too
PATON Len	13:56:00	15:44:25	1:48:25	43.94	1	206.8	24.7	823	far behind lead line
TURNER Jason	13:44:00	15:39:40	1:55:40	41.19	25.2	175.4	27.8	819	
PRITCHARD Phil	13:55:00	15:44:38	1:49:38	43.45	2.2	201.1	21.9	816	
DURAND Jon snr	13:51:00	15:44:39	1:53:39	41.92	7.9	183.6	19.6	801	
PENNICUIK Lloyd	13:54:00	15:46:12	1:52:12	42.46	1.4	189.7	17.5	799	
PARER Adam	13:58:00	15:49:41	1:51:41	42.66	0	192	14.4	797	
NOMA Yasuhiro	13:52:00	15:47:02	1:55:02	41.41	3	177.9	15.8	787	
STEVENS Dave	13:58:00	15:52:00	1:54:00	41.79	0	182.2	11.6	784	
WAGNER Derek	14:05:00	16:02:55	1:57:55	40.4	0	166.6	10.4	767	
HIKOBE Junko	13:47:00	15:50:58	2:03:58	38.43	4.6	144.4	12.3	752	
SUNAMA Takashi	13:53:00	16:02:13	2:09:13	36.87	0	126.5	10.7	727	
MCMAHON Steve	13:00:00	16:24:52	3:24:52	23.25	0	0	10.2	601	Window open time + latest finish.
									Slowest time by a long way



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Original GAP	0	0.8	11.6	0	0	0	0.6	0	0.3	0	0	0	0	0	0	0	0
New OzGAP	13.5	44.7	70.6	13.7	0	0	27.9	1	25.2	2.2	7.9	1.4	0	3	0	0	4.6